

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. – 39. (Cancelled).

40. (Previously Presented) An optical apparatus comprising an optical system that forms a two-dimensional image,
the optical system comprising a variable optical-property mirror,
wherein the variable optical-property mirror is arranged to be decentered from a light-incident-side optical axis, and
wherein the variable optical-property mirror has a reflecting surface that is deformable.

41. (Previously Presented) An optical system comprising:
a variable optical-property element; and
a plurality of rotationally asymmetric curved surfaces,
wherein the variable optical-property element and the plurality of rotationally asymmetric curved surfaces are arranged along a single traveling path of rays, and
wherein the variable optical-property element is arranged to be decentered from an optical axis of the optical system.

42. (Previously Presented) An optical system according to claim 98, further comprising an image sensor.

43. - 47. (Cancelled).

48. (Previously Presented) An optical system according to 42, wherein each of the variable optical-property element and the image sensor is disposed on a surface of the optical element provided with the plurality of rotationally asymmetric curved surfaces.

49. (Currently Amended) An optical system comprising:
a variable optical-property mirror; and

an optical element having a light-deflecting function and disposed before or after the variable optical-property mirror in a single traveling path of rays,

wherein a shape of a reflecting surface of the variable optical-property mirror is ~~changeable~~ deformable,

wherein the variable optical-property mirror is arranged to be decentered from a light-incident-side optical axis, and

wherein the optical element has a rotationally asymmetric surface having a shape that defines only one plane of symmetry or no plane of symmetry.

50. – 83. (Cancelled).

84. (Currently Amended) An optical device comprising:

a variable optical-property element having a light-deflecting function; and

a rotationally asymmetric reflecting surface,

wherein the rotationally asymmetric reflecting surface defines only one plane of symmetry or no plane of symmetry, and

wherein the variable optical-property element and the rotationally asymmetric reflecting surface are arranged to be decentered from one another.

85. (Cancelled).

86. (Previously Presented) An optical device according to claim 84, wherein the variable optical-property element is a reflection-type element.

87. (Cancelled).

88. (Previously Presented) An optical system according to claim 41, wherein the rotationally asymmetric curved surfaces of the optical element are reflecting surfaces and are arranged to be decentered from the optical axis of the optical system.

89. – 91. (Cancelled).

92. (Previously Presented) An optical apparatus according to claim 40, further comprising an image sensor.

93. (Previously Presented) An optical apparatus according to claim 40, wherein the optical system forms an image surface on an exit side thereof, and wherein the optical system further comprises an optical element arranged between the image surface and the reflecting surface of the variable optical-property mirror.

94. (Previously Presented) An optical apparatus according to claim 40, wherein the optical system further comprises an optical element having a rotationally asymmetric optical surface.

95. (Previously Presented) An optical apparatus according to claim 40, wherein the optical system further comprises a rotationally asymmetric reflecting surface, and wherein the rotationally asymmetric reflecting surface is arranged to be tilted in reference to an optical axis of the optical system.

96. (Previously Presented) An optical apparatus according to claim 95, wherein the rotationally asymmetric reflecting surface defines only one plane of symmetry or no plane of symmetry.

97. (Previously Presented) An optical apparatus according to claim 40, wherein the optical system further comprises an optical element that has a plurality of rotationally asymmetric optical surfaces.

98. (Previously Presented) An optical system according to claim 41, wherein the plurality of rotationally asymmetric curved surfaces are provided on a single optical element.

99. – 115. (Cancelled).

116. (Previously Presented) An optical system comprising:
a reflection-type variable optical-property element having a variable optical power;
and
an optical element having a rotationally asymmetric surface,
wherein the reflection-type variable optical-property element and the optical element
are arranged along a single traveling path of rays and are arranged to be decentered from one
another, and
wherein the rotationally asymmetric surface defines only one plane of symmetry or no
plane of symmetry.

117. (Currently Amended) An optical system comprising:
a plurality of variable optical-property elements each having a variable optical power;
and
an optical element having a rotationally asymmetric optical surface,
wherein the plurality of variable optical-property elements and the optical element are
arranged along a single traveling path of rays, and
wherein the variable optical-property elements and the optical element are decentered
from one another, and
wherein the rotationally asymmetric optical surface is a smooth surface.

118. – 125. (Cancelled).

126. (Previously Presented) An optical unit comprising:
a transparent optical element having an entrance surface and an exit surface that is
different from the entrance surface; and
a reflection-type variable optical-property element having a variable optical power,
the reflection-type variable optical-property element being arranged integrally with the
transparent optical element,
wherein the transparent optical element and the reflection-type variable optical-
property element are configured such that light enters the optical element through the
entrance surface, is reflected at the reflection-type variable optical-property element, and then
exits out of the transparent optical element through the exit surface.